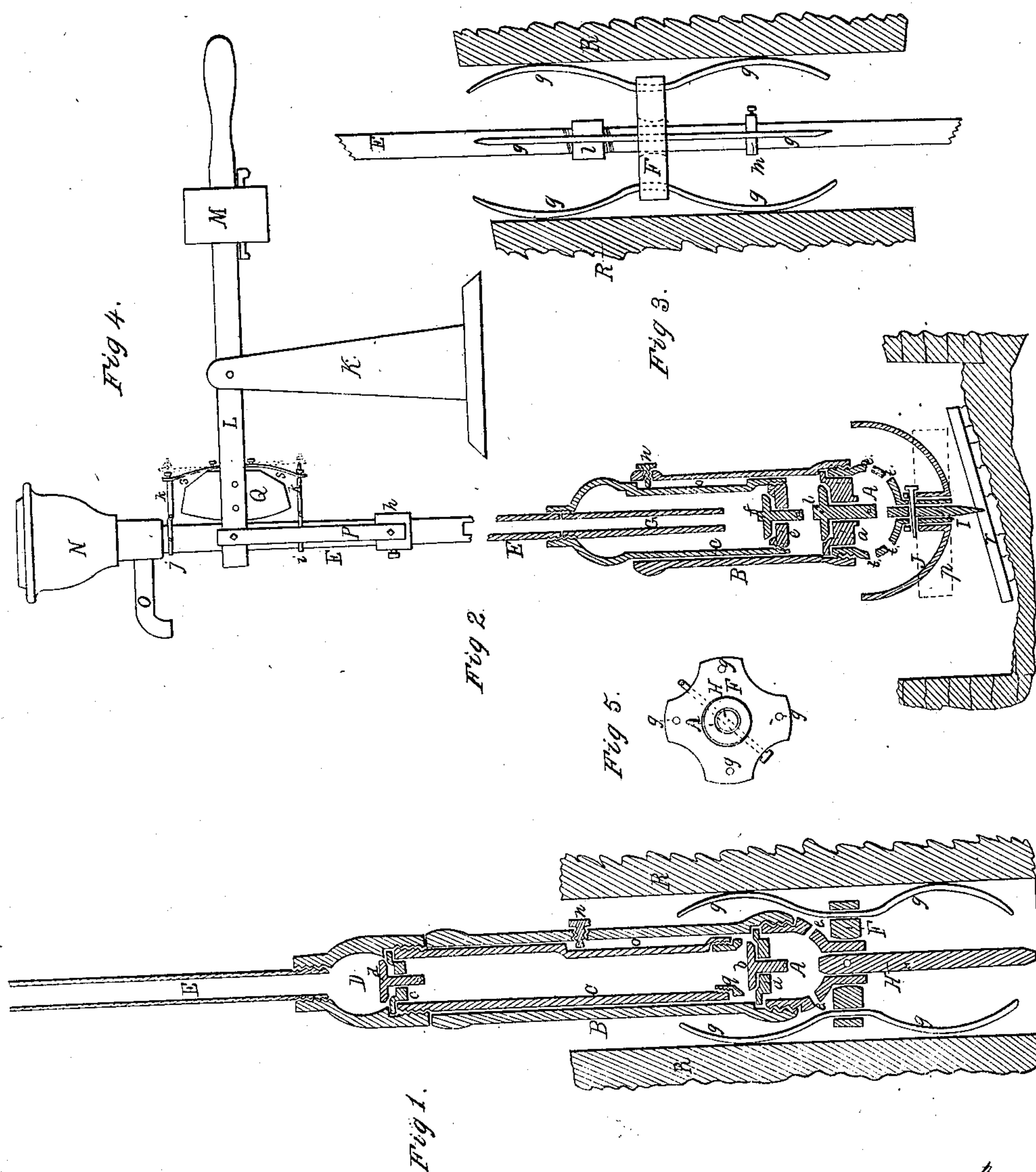


No. 25,208.

PATENTED AUG. 23, 1859.

J. M. MAY.
PUMP.



Witnesses.

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Specification of Letters Patent No. 25,208, dated August 23, 1859.

To all whom it may concern:

Be it known that I, JOHN M. MAY, of the city of Janesville, in Rock county, in the State of Wisconsin, have invented a new and useful Improvement in the Manner of Constructing Pumps for Raising Water from Deep and Drilled Wells, and for other Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making part of this specification, the same letters of reference indicating corresponding parts in each figure.

The nature of my invention consists: 1st, In using two cylinders in the construction of a pump—one working inside the other, and kept together by a set screw passing through the outside cylinder and the point passing into a channel or longitudinal groove in the inside cylinder for the double purpose of gaging the stroke of the pump and keeping the two cylinders together while lowering the pump to its place for operating, and removing it when necessary for repairs, the inside cylinder being attached to and moves with the pipe that conducts the water. 2d, When used for drilled wells, in employing springs that are curved and extended longitudinally with the pump and are attached to the lower end of the stationary part of the pump for the purpose of keeping the pump centrally in the drilled hole in the rock, and hold the pump in its place steadily while in operation, and allow the inner cylinder to move freely without lateral pressure. 3rd, In using collars to which springs are attached that serve as stationary guides to the pipe as it rises and falls in the drilled hole when pumping, also in making the inner cylinder a movable air chamber. 4th, Also in employing a taper point or spike at the lower end of the stationary part when used in open or large wells and cisterns. In drilled wells a rod takes the place of the spike or point, to keep the pump the proper distance from the bottom. 5th, Attaching to the lower end of the stationary part of the pump when used in open wells and reservoirs a dish shaped casting in which may be placed stones or other heavy substances to keep the pump anchored safely at the bottom, or a casting or other weight may be attached to the pump to keep it in place.

Figure 1 is a vertical section of a pump adapted to bored or drilled wells. Fig. 2 is a vertical section of a pump adapted to

open wells cisterns and reservoirs. Fig. 3 shows the method of keeping the pipe steady by means of a collar and springs as the pipe rises and falls in operating, pumping, pumping rods being dispensed with. Fig. 4 shows the method of attaching the pipe to the pumping lever and is kept in its place by springs which also aid in pumping. Fig. 5 is a cross section of the collar to which the springs are attached to steady the pump, and pipe.

A, is the bottom piece of the pump and connects with the cylinder B, holding in place at their joint, valve seat *a*, and valve *b*.—A, being perforated at *t, t*, for the induction of water and fluid. The lower end of A, in Fig. 2 receives the spike or point and dish shaped casting or anchor herein-after described, and in Fig. 1 holds the rod or bar H, the length of which determines the distance the pump is kept from the bottom of the well, and also receives the collar F, to which the springs *g, g, g, g; g, g, g, g*, or any proper number of springs are fastened, which springs press against the rock R, of the well, and thus steady and keep in place the stationary part of the pump as in Fig. 1, and serve to keep the collar F, stationary, to act as a guide to the pipe, as in Fig. 3. These springs are curved as shown, so that in passing up or down in putting in or taking out a pump they will yield and glide over any uneven places in the wall of the rock, and yet press sufficiently hard to keep the stationary part of the pump steady as in Fig. 1, and to keep the collar F, stationary as a guide for the pipe as in Fig. 3. The socket *l*, coupling the gas pipe and the collar *m*, (kept to its place by a key or set screw) serve to keep the collar in place when putting in or taking out the pump and pipe, and when operating the pump remains stationary and steadies the pipe, yet allowing it to move freely when pumping.

Instead of one collar and springs with each end curved, two collars or heads with springs curved outward and extending to and pressing the wall may be used—one collar above and one below the socket.

B, the outer and stationary cylinder is connected with the inner cylinder C, by means of set screw *n*, the point of which screw fits easily the longitudinal groove or channel *o*, the inner cylinder being embossed longitudinally in its interior to make room for the groove *o*, and not allow any com-

munication from inside of the cylinder C, with the groove. This groove and set screw are important in preventing the two cylinders from separating when putting in and taking out the pump and in gaging the length of the stroke of the pump.

The cylinder C, in Fig. 1, is connected with part D, and holds valve seat *c*, and valve *a*, in place. D, being connected with the pipe E, so that pipe E, piece D, and cylinder C, rises and falls vertically in pumping, while the cylinder B, remains stationary. The lower end of cylinder C, is provided with a screw ring *q*, to secure packing to the cylinder when water is to be raised or forced a great distance, in short distances it needs no packing. The length of the rod H, determines the height the pump is to be kept from the bottom of the well.

G, in Fig. 2 is a pipe extending downward from the top of the cylinder in the center, but not so far as to interfere with valve *f*, the water having to pass up the pipe G, (and pipe E,). The cylinder C, in this figure forms an air chamber that is moved up and down in operating the pump. Cylinder C, in Fig. 2 connects directly with pipe E, without the intervening piece D, as in Fig. 1, and the valve seat *c*, and valve *f*, are placed at the lower end of the cylinder and move with it. The piece A, in Fig. 2, is provided with a point or spike I, to hold the pump steady at the bottom, by penetrating a block of wood *r*, or other substance that may adapt itself to the surface of the bottom of the well, and yet allow the pump to stand vertical, and is also provided with the cup or dish J, that may be filled with stone or other heavy material to form a weight that will anchor the stationary part of the pump or, instead of the dish, a solid casting or weight in the form of the dotted line *p*, or other form attached to the sta-

tionary part of the pump, may be used. 45
The piece of wood *r*, may be of plank, and fastened to a flat stone or to brick or to other heavy material and lowered to the bottom with the wood upward to receive the spike I I, which while it keeps the pump in place, 50
is no obstacle in removing it for repairs or other purposes.

In Fig. 4, K, is the fulcrum post. L, the pumping lever. M, the weight to balance pipe and movable part of the pump. O, the 55
spout. N, the top and reservoir connected with the spout. P, the links connecting the pipe E, by thimble *h*, with lever L. The forward end of the lever is forked and receives the circular block 2, which causes the 60
pipe to rise and fall vertically, the pipe being kept close to the block by the springs *s*, *s*, they being connected to the pipe E, by the bands *j*, *i*, and the links *k*, *k*. These springs also aid in reversing the motion in 65
pumping.

I do not claim the vertical motion of the pipe in pumping nor the omitting the use of pumping rods, but

What I claim as my invention and desire 70
to secure by Letters Patent is:

1. The device for connecting together the cylinders, and regulating the stroke of the pump, in combination with the point or spike I, or its equivalent, when used in 75
open wells, and claim said device in combination with the rod H, when used in drilled wells, substantially as, and for the purposes set forth.

2. I also claim the collar F, and springs 80
g g g g, *g g g g*, when used in combination with the pump, or with the eduction pipe and arranged substantially as shown.

JOHN M. MAY.

Witnesses:

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